Installation Guide

Wyse® C Class and Wyse® R Class
Flash Upgrade Option Kit

Products: C30LE, C50LE, C90LE, C90LEW, C90LE7,
R50L, R50LE, R90L, R90LE, R90LW, R90LEW, R90L7, R90LE7

Issue: 030111
PN: 883884-14L Rev. A

Copyright Notices

© 2011, Wyse Technology Inc. All rights reserved.

This manual and the software and firmware described in it are copyrighted. You may not reproduce, transmit, transcribe, store in a retrieval system, or translate into any language or computer language, in any form or by any means, electronic, mechanical, magnetic, optical, chemical, manual or otherwise, any part of this publication without express written permission.

End User License Agreement (“License”)

A copy of the Wyse Technology End User License Agreement is included in the software and provided for your reference only. The License at http://www.wyse.com/license as of the purchase date is the controlling licensing agreement. By copying, using, or installing the software or the product, you agree to be bound by those terms.

Trademarks

The Wyse logo and Wyse are trademarks of Wyse Technology Inc. Other product names mentioned herein are for identification purposes only and may be trademarks and/or registered trademarks of their respective companies. Specifications subject to change without notice.

Restricted Rights Legend

You acknowledge that the Software is of U.S. origin. You agree to comply with all applicable international and national laws that apply to the Software, including the U.S. Export Administration Regulations, as well as end-user, end-use and country destination restrictions issued by U.S. and other governments. For additional information on exporting the Software, see http://www.microsoft.com/exporting.

Ordering Information

For availability, pricing, and ordering information in the United States and Canada, call 1-800-GET-WYSE (1-800-438-9973) or visit us at http://www.wyse.com. In all other countries, contact your sales representative.

Contents

1 Introduction *1*

Kit Warranty *1*
Kit Contents *1*
Overview *1*
Wyse Technical Support *2*
- Related Documentation and Services *2*
- Wyse Online Community *2*

2 Installing C Class Flash *3*

Requirements *3*
Procedures *3*
What's Next *4*

3 Installing R Class Flash *5*

Requirements *5*
Procedures *5*
- Installing R50L, R90L, R90LW, or R90L7 Cloud Client Flash *6*
- What's Next *7*
- Installing R50LE, R90LE, R90LEW, or R90LE7 Cloud Client Flash *8*
- What's Next *9*

4 Installing Firmware *11*

Requirements *11*
Procedures *12*
Troubleshooting *17*
- USB Keys - Troubleshooting Boot Issues *17*
- SanDisk Cruiser Flash Drives - Troubleshooting Partition Issues *17*

This page intentionally blank.

1 Introduction

This guide provides step-by-step instructions to upgrade flash in the following products:

- **C Class:**
  - C30LE
  - C50LE
  - C90LE
  - C90LEW
  - C90LE7
- **R Class:**
  - R50L
  - R50LE
  - R90L
  - R90LE
  - R90LW
  - R90LEW
  - R90L7
  - R90LE7

Kit Warranty

The warranty on this kit assumes the remaining months of warranty of the cloud client in which it is installed, or for 90 days, whichever is greater. Installation of this kit will not void the factory warranty, however the user will be responsible for damage due to improper installation.

Kit Contents

The kit includes a *Flash module*.

Overview

To upgrade flash:

1. Perform a hardware installation (install new flash) by completing one of the following (depending on your cloud client class):
   - "Installing C Class Flash"
   - "Installing R Class Flash"
2. Complete "Installing Firmware."

Wyse Technical Support

To access Wyse technical resources, visit http://www.wyse.com/support. If you still have questions, you can submit your questions using the Wyse Self-Service Center (on the Wyse.com home page, go to **Support > Knowledge Base > Home** tab) or call Customer Support at 1-800-800-WYSE (toll free in U.S. and Canada). Hours of operation are from 6:00 A.M. to 5:00 P.M. Pacific Time, Monday through Friday.

To access international support, visit http://www.wyse.com/global.

Related Documentation and Services

Fact Sheets containing the features of hardware products are available on the Wyse Web site. Go to http://www.wyse.com/products/hardware/index.asp, click the link for your hardware product, and then click the link for the Fact Sheet.

Administrator and other documentation for your cloud client model are available at: http://www.wyse.com/manuals.

Wyse Online Community

Wyse maintains an online community where users of our products can seek and exchange information on user forums. Visit the Wyse Online Community forums at: http://community.wyse.com/forum.

2 Installing C Class Flash

This chapter contains information for C30LE, C50LE, C90LE, C90LEW, and C90LE7 cloud client users who must install new flash.

Requirements

- Small Phillips screwdriver
- Needle-nose pliers
- (Optional) Plastic alignment tools or equivalent for prying

Warning

Flash modules may be susceptible to damage by Electro-Static Discharge (ESD). All industry-standard cautions should be followed to avoid ESD. Before you remove or install a module, touch any metal part of the chassis and keep that contact with the chassis during the installation process.

Procedures

Caution

Follow all precautions listed in the Quick-Start Guide that came with your cloud client for disconnecting and reconnecting the cloud client.

1. Perform a proper shutdown of the cloud client by closing all files and ending your session, and then press the power button to turn off the cloud client.
2. Unplug the power cord and power adapter, remove all of the cables from the rear of the cloud client, and then detach any support feet.
3. Position the cloud client horizontally, remove the screw from the back of the cloud client using a small Phillips screwdriver, and then use a plastic alignment tool to pry and loosen the top cover as shown in Figure 1.

Figure 1 Removing the top cover

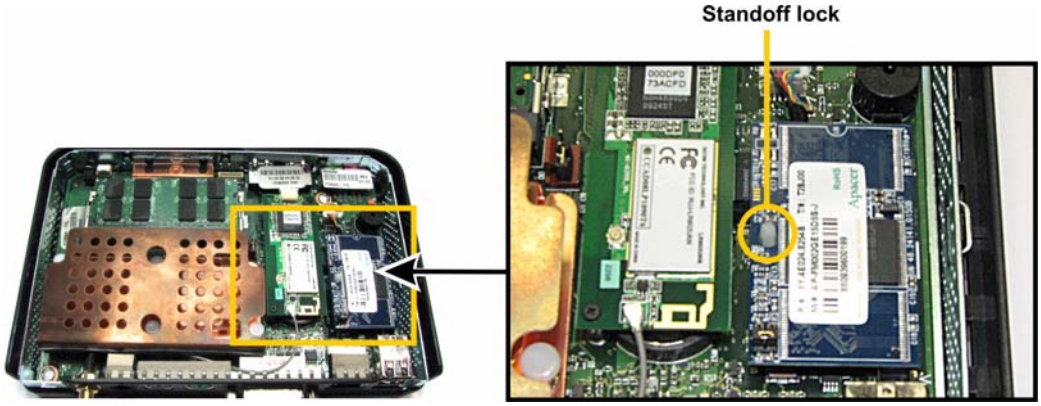
4. Lift the top cover to remove it and expose the main board as shown in Figure 2. Notice that the rear of the cloud client is positioned at the bottom of the photo.

Warning

Flash modules may be susceptible to damage by Electro-Static Discharge (ESD). All industry-standard cautions should be followed to avoid ESD. Before you remove or install a module, touch any metal part of the chassis and keep that contact with the chassis during the installation process.

5. Note where the connector of the flash module is located in Figure 2. Remove the existing flash module. Use needle-nose pliers to squeeze the plastic standoff lock as you rock the flash module back and forth to remove it from the socket.

Figure 2 Removing the existing flash module



6. Install the new flash module in the reverse order of removing the original flash module. Carefully press the flash module onto the standoff lock and connector, making sure to lock it into place.
7. Replace the top cover in the reverse order of removing it as described in steps 4 and 3.
8. Attach any support feet.
9. Reconnect the video display, keyboard, mouse, and power adapter to the cloud client before connecting to an electrical outlet.

Caution

Do not turn on the cloud client. The cloud client is ready to re-image, however the flash module does not contain an operating system. Turning on power to your cloud client without firmware will display the error message “NO OPERATING SYSTEM FOUND.”

What’s Next

Continue with "Installing Firmware."

3 Installing R Class Flash

This chapter contains information for R50L, R50LE, R90L, R90LE, R90LW, R90LEW, and R90L7 cloud client users who must install new flash.

Requirements

- Small Phillips screwdriver
- Needle-nose pliers
- (Optional) Container for holding screws

Warning

Flash modules may be susceptible to damage by Electro-Static Discharge (ESD). All industry-standard cautions should be followed to avoid ESD. Before you remove or install a module, touch any metal part of the chassis and keep that contact with the chassis during the installation process.

Procedures

Perform a hardware installation (install new flash), by completing one of the following (depending on your cloud client class):

- "Installing R50L, R90L, R90LW, or R90L7 Cloud Client Flash"
- "Installing R50LE, R90LE, R90LEW, or R90LE7 Cloud Client Flash"

Installing R50L, R90L, R90LW, or R90L7 Cloud Client Flash

Caution

Follow all precautions listed in the Quick-Start Guide that came with your cloud client for disconnecting and reconnecting the cloud client.

1. Perform a proper shutdown of the cloud client by closing all files and ending your session, and then press the power button to turn off the cloud client.
2. Unplug the power cord and power adapter, remove all of the cables from the rear of the cloud client, and detach the vertical foot.
3. Position the cloud client horizontally, and then remove the screws from the top and bottom of the cloud client using a small Phillips screwdriver as shown in Figure 3.

Figure 3 Removing the top and bottom screws

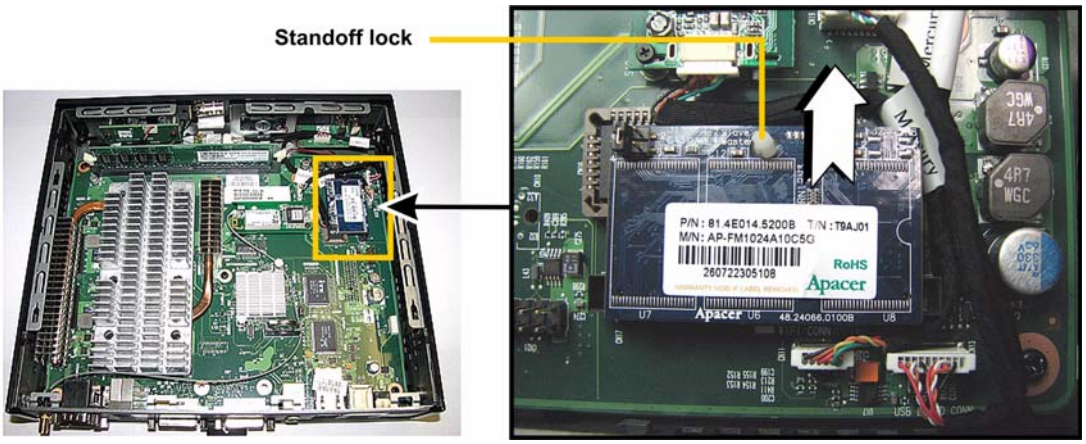
4. Slide the left side cover toward the rear of the device and remove it to expose the main board as shown in Figure 4. Notice that the rear of the cloud client is positioned at the bottom of the photo.

Warning

Flash modules may be susceptible to damage by Electro-Static Discharge (ESD). All industry-standard cautions should be followed to avoid ESD. Before you remove or install a module, touch any metal part of the chassis and keep that contact with the chassis during the installation process.

5. Note where the connector of the flash module is located in Figure 4. Use needle-nose pliers to squeeze the plastic standoff lock as you rock the flash module back and forth to remove it from the socket.

Figure 4 Removing the existing flash module



6. Install the new flash module in the reverse order of removing the original flash module. Carefully press the flash module onto the standoff lock and connector, making sure to lock it into place.
7. Replace the left side cover in the reverse order of removing it as described in steps 4 and 3.
8. Attach the vertical foot.
9. Reconnect the video display, keyboard, mouse, and power adapter to the cloud client before connecting to an electrical outlet.

Caution

Do not turn on the cloud client. The cloud client is ready to re-image, however the flash module does not contain an operating system. Turning on power to your cloud client without firmware will display the error message “NO OPERATING SYSTEM FOUND.”

What’s Next

Continue with "Installing Firmware."

Installing R50LE, R90LE, R90LEW, or R90LE7 Cloud Client Flash

Caution

Follow all precautions listed in the Quick-Start Guide that came with your cloud client for disconnecting and reconnecting the cloud client.

1. Perform a proper shutdown of the cloud client by closing all files and ending your session, and then press the power button to turn off the cloud client.
2. Unplug the power cord and power adapter, remove all of the cables from the rear of the cloud client, and detach the vertical foot.
3. Position the cloud client horizontally, and then remove the screws from the left side cover of the cloud client using a small Phillips screwdriver as shown in Figure 5.

Figure 5 Removing the left side cover screws

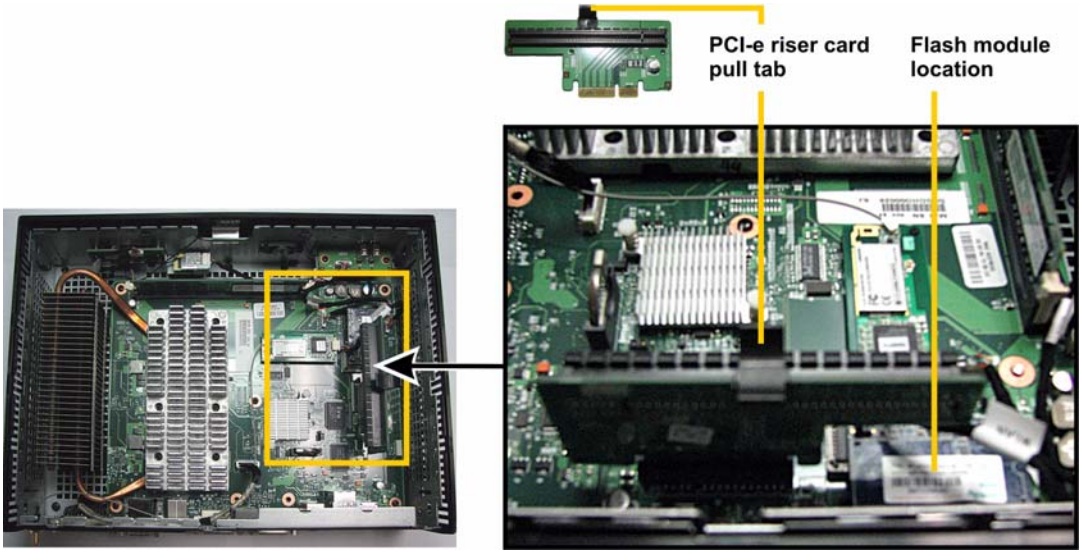
4. Slide the left side cover toward the rear of the device and remove it to expose the main board as shown in Figure 6. Notice that the rear of the cloud client is positioned at the bottom of the photo.

Warning

Flash modules may be susceptible to damage by Electro-Static Discharge (ESD). All industry-standard cautions should be followed to avoid ESD. Before you remove or install a module, touch any metal part of the chassis and keep that contact with the chassis during the installation process.

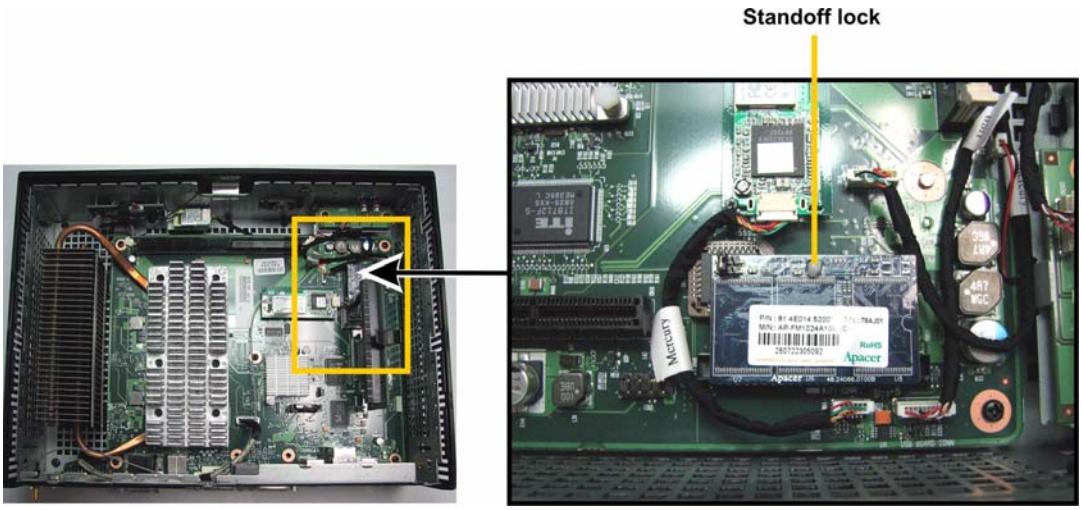
5. To have easy access to the flash module, the PCI-e riser card must be removed first. Using the finger tab, pull the card out of its connector and set aside.

Figure 6 Removing the PCI-e riser card



6. Note where the connector of the flash module is located in Figure 7. Use needle-nose pliers to squeeze the plastic standoff lock as you rock the flash module back and forth to remove it from the socket.

Figure 7 Removing the existing flash module



7. Install the new flash module in the reverse order of removing the original flash module. Carefully press the flash module onto the standoff lock and connector, making sure to lock it into place.
8. Reinstall the PCI-e riser card in the reverse order of removing it as described in step 5.
9. Replace the left side cover in the reverse order of removing it as described in steps 4 and 3.
10. Attach the vertical foot.
11. Reconnect the video display, keyboard, mouse, and power adapter to the cloud client before connecting to an electrical outlet.

Caution

Do not turn on the cloud client. The cloud client is ready to re-image, however the flash module does not contain an operating system. Turning on power to your cloud client without firmware will display the error message “NO OPERATING SYSTEM FOUND.”

What’s Next

Continue with "Installing Firmware."

This page intentionally blank.

4 Installing Firmware

This chapter includes the requirements and procedures you need to install and use Wyse® USB Firmware Tool™ to update your cloud client to the firmware you need.

Tip

The purpose of the Wyse USB Firmware Tool is to configure a bootable USB key for device firmware. In the following procedures, you will create a configured USB key containing the firmware contents that you need, and then boot from this configured USB key on appropriate product and flash size devices to push the contents of the USB key onto these *target* devices (containing your upgraded flash).

Requirements

- Machine running either Windows XP Professional SP3, Windows 2003 Server, Windows 7 Enterprise (32-bit), or Windows 7 Ultimate (64-bit)
- USB key size should be 4 GB or larger (up to 16 GB tested—see "USB Keys - Troubleshooting Boot Issues") depending on your needs.

Caution

During the USB key configuration process the USB key will be reformatted.

Procedures

Complete the following procedures as an administrator (administrator privileges are required).

Step 1: Download and Ready the Firmware You Require

You must download and ready (extract) the firmware you want to use for updating your devices *before* you start the *Wyse USB Firmware Tool* wizard. Firmware files are normally made available in .exe or .zip format and must be *downloaded* and then *extracted* to a local hard drive folder that is available to the *Wyse USB Firmware Tool* wizard.

Wyse provides firmware for supported devices from its *Software Downloads* Web site at: http://www.wyse.com/serviceandsupport/support/downloads.asp. Simply select the firmware you need in the *Product Downloads Active* box, click **Search**, and use the *Active Firmware* link you need.

Caution

For the Windows 7 Enterprise 32-bit operating system, be sure to right-click on the .exe file you downloaded (for example, the *11.1.015_R50LE_merlin.exe* file for the Linux R50L/R50LE OS image) and select the **Run as administrator** option to extract the files.

The following are examples of the *Active Firmware* links that you must use (names to click) to download and extract the firmware to the local hard drive folder you want:

Tip

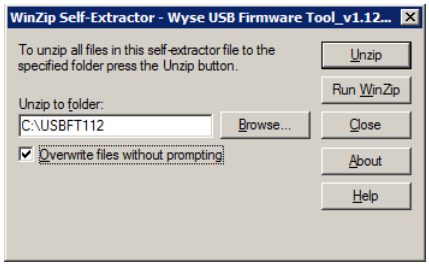
In some cases (for example, the C50LE and R50L/R50LE OS images, the name of the link you need is *WDM Image* as the firmware image is for use with Wyse Device Manager (WDM) and USB Firmware Tool deployment.

- **C30LE Only** - *CE 6.0 Wyse WFR4 Build 666 for 128MB flash*
- **C50LE, R50L, and R50LE Only** - *WDM Image*
- **C90LE, R90L, and R90LE Only** - *XPE SP3 WFR3*
- **C90LEW Only** - *WES C90LEW Image*
- **R90LW and R90LEW Only** - *WES R90LW/R90LEW Image*
- **C90LE7 Only** - *WES C90LE7 Image*
- **R90L7 and R90LE7 Only** - *WES R90L7/R90LE7 Image*

Step 2: Install Wyse USB Firmware Tool 1.12

1. Go to the Wyse *Software Downloads* Web site at: http://www.wyse.com/serviceandsupport/support/downloads.asp, select **USB Firmware Tool** in the *Product Downloads Active* box, click **Search**, and use the *Wyse USB Firmware Tool* link to download the tool to the local hard drive folder you want. Double-click the *Wyse USB Firmware Tool v1.12_GA.exe* to execute the file and open the *WinZip Self-Extractor* dialog box.

Figure 8 Extract files to your hard drive (C:\USBFT112)



2. Enter **C:\USBFT112** in the **Unzip to folder** box, and then click **Unzip** to extract all files from the *Wyse USB Firmware Tool v1.12_GA.exe* file into the **C:\USBFT112** directory. The default directory for the extracted files is **Wyse USB Firmware Tool**.

Caution

It is not recommended to use your desktop for the destination directory as there are several files that will be extracted from the .exe file.

3. Create a shortcut on the desktop for the *Wyse USB Firmware Tool.exe* file.

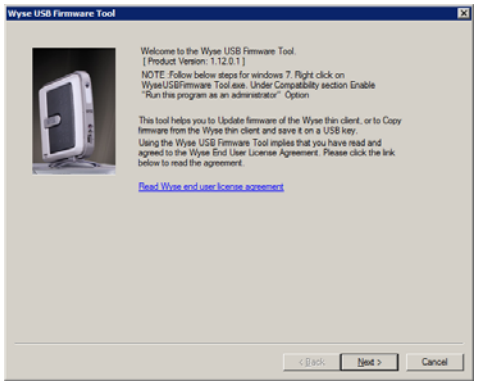
Step 3: Use Wyse USB Firmware Tool to Configure a Single USB Key to Install Firmware

1. Double-click the shortcut to run the tool and open the *Wyse USB Firmware Tool* wizard (the welcome page provides the product version and description, and a link to view the Wyse end user license agreement).

Caution

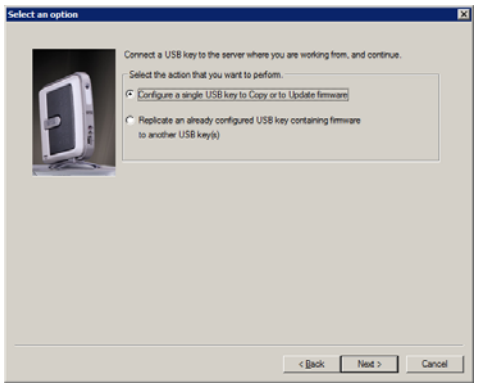
For the Windows 7 Enterprise 32-bit operating system, be sure to right-click on **Wyse USB Firmware Tool.exe**, select **Properties**, and enable the **Run this program as an administrator** option on the *Compatibility* tab).

Figure 9 Wyse USB Firmware Tool wizard


Wyse USB Firmware Tool
Welcome to the Wyse USB Firmware Tool.
[Product Version: 1.12.0.1]
NOTE :Follow below steps for windows 7. Right click on WyseUSBFirmware Tool.exe. Under Compatibility section Enable "Run this program as an administrator" Option
This tool helps you to Update firmware of the Wyse thin client, or to Copy firmware from the Wyse thin client and save it on a USB key.
Using the Wyse USB Firmware Tool implies that you have read and agreed to the Wyse End User License Agreement. Please click the link below to read the agreement.
Read Wyse end user license agreement
< Back
Next >
Cancel

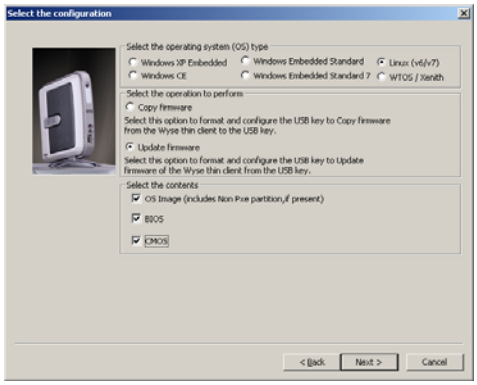
2. Click **Next** to open the **Select an Option** dialog box.

Figure 10 Configuration options


Select an option
Connect a USB key to the server where you are working from, and continue.
Select the action that you want to perform.
Configure a single USB key to Copy or to Update firmware
Replicate an already configured USB key containing firmware to another USB key(s)
< Back
Next >
Cancel

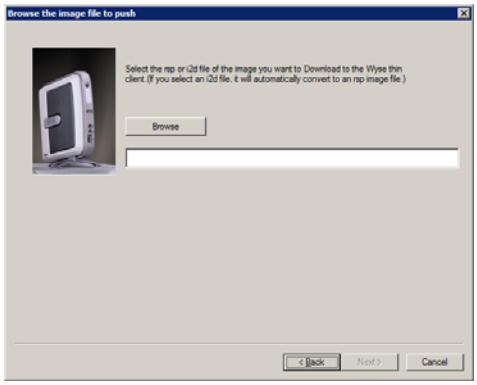
3. Select the **Configure a single USB key to Copy or to Update firmware** option, and then click **Next** to open the **Select the Configuration** dialog box.

Figure 11 Update firmware options - example of Linux (v6/v7) option


Select the configuration
Select the operating system (OS) type
Windows XP Embedded
Windows Embedded Standard
Linux (v6/v7)
Windows CE
Windows Embedded Standard 7
WTOS / Xenith
Select the operation to perform
Copy firmware
Select this option to format and configure the USB key to Copy firmware from the Wyse thin client to the USB key.
Update firmware
Select this option to format and configure the USB key to Update firmware of the Wyse thin client from the USB key.
Select the contents
OS Image (includes Non Pxe partition,if present)
BIOS
CMOS
< Back
Next >
Cancel

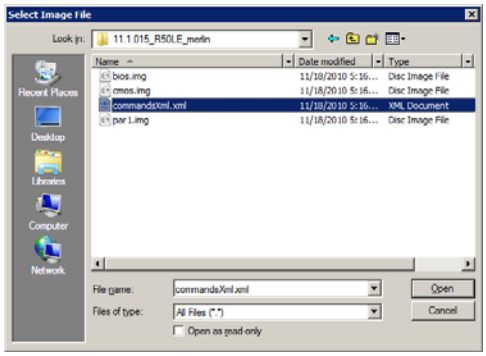
4. Depending on the operating system of the firmware (from "Step 1: Download and Ready the Firmware You Require") that you will pushing onto the *target* devices (containing your upgraded flash), select one of the following *OS type* options:
   - **C30LE Only** - *Windows CE*
   - **C50LE, R50L, and R50LE Only** - *Linux (v6/v7)*
   - **C90LE, R90L, and R90LE Only** - *Windows XP Embedded*
   - **C90LEW, R90LW and R90LEW Only** - *Windows Embedded Standard*
   - **C90LE7, R90L7 and R90LE7 Only** - *Windows Embedded Standard*
5. Select the **Update Firmware** operation to perform option. Be sure that all three contents options are selected (**OS Image**, **BIOS**, and **CMOS**).
6. Click **Next** to open the browse dialog box.

Figure 12 Browse for image file


Browse the image file to push
Select the rsp or i2d file of the image you want to Download to the Wyse thin client. (If you select an i2d file, it will automatically convert to an rsp image file.)
Browse
< Back
Next >
Cancel

7. Click **Browse**.

Figure 13 Browse to select commandsXml.xml - example of Linux R50L/R50LE



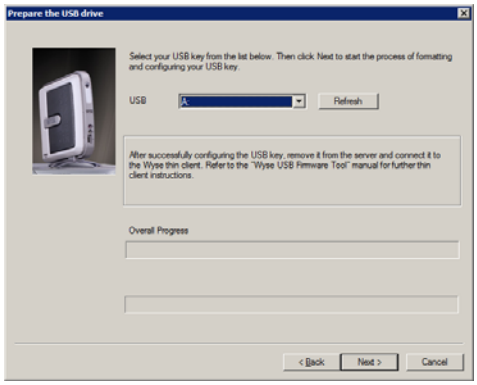
8. Navigate to the image folder (*on your hard drive*) that contains the firmware image you extracted (this is the location you selected in "Step 1: Download and Ready the Firmware You Require"), click on the **commandsXml.xml** file to select it (you may need to select the *All Files* option from the *Files of Type* box to display the **commandsXml.xml** file for selection), and then click **Open**.

Caution

Be sure to use the **commandsXml.xml** file you extracted in "Step 1: Download and Ready the Firmware You Require"; do not use the **commandsXml.xml** file directly from an .exe or .zip download.

9. In the browse dialog box, click **Next** to open the **Prepare the USB Drive** dialog box.

Figure 14 Prepare USB drive


Prepare the USB drive
Select your USB key from the list below. Then click Next to start the process of formatting and configuring your USB key.
USB
Refresh
After successfully configuring the USB key, remove it from the server and connect it to the Wyse thin client. Refer to the "Wyse USB Firmware Tool" manual for further thin client instructions.
Overall Progress
< Back
Next >
Cancel

10. Select the USB key onto which you want the configurations (you can use **Refresh** as needed to recognize an inserted USB key), and then click **Next**. The progress bars show the overall (formatting and configuration) progress and task progress.
11. After configuration, click **Finish** to close the wizard and then remove the configured USB key for use (you will use the configured USB key on your *target* devices).

Caution

Before using any configured USB key on a target device (to *push* firmware), you must configure the target device to boot from the configured USB key as described in "Step 4: Use the Configured USB Key to Install Firmware on Each Cloud Client."

Step 4: Use the Configured USB Key to Install Firmware on Each Cloud Client

On each cloud client you want to convert, use the one-time boot menu to configure it to boot from the configured USB key (the one-time boot menu will *not* modify your default BIOS configurations).

To enter and use the one-time boot menu:

1. Attach the configured USB key to the cloud client (be sure it is shut down and disconnected from any network).
2. Power on the device while pressing and holding the **P** key during boot. When prompted for a boot option, select the **USB HDD** option (displaying your USB key vendor name) for your device (usually option 3 in the list of boot options) and press **Enter**.
3. Follow the process prompts.

Tip

When booting a *target* device from the configured USB key (*containing the contents to be pushed to a target device*), you will be prompted to continue with the *push* process (to continue, type **y** and press **Enter**). Once the *push* process is complete, you will be prompted to reboot (to reboot, press **Enter** and remove the USB key).

Caution

During the *Critical Operation in Progress* message, do not interrupt the process.

Step 5: Verifying Cloud Client Operation

After the cloud client reboots, you can verify that your general client information (for example, the *System Information* dialog box information) is correct. After verification, the cloud client is ready for operation and setup by an administrator.

Tip

Administrator and other documentation for your cloud client model are available at: http://www.wyse.com/manuals.

Troubleshooting

This section contains general troubleshooting information.

USB Keys - Troubleshooting Boot Issues

Due to different manufacturing processes on USB keys (and the variety of them), not all brands have been tested with the Wyse USB Firmware Tool. If you experience problems booting from a configured USB key, it is recommended that you try a different brand of USB key. The following list of USB keys have been successfully tested with the Wyse USB Firmware Tool:

- Kingston Data Traveler 4 GB
- Kingston Data Traveler 8 GB
- SanDisk Cruzer micro 4 GB
- SanDisk Cruzer micro 8 GB
- SanDisk Cruzer micro 16 GB
- Transcendent 4GB

SanDisk Cruiser Flash Drives - Troubleshooting Partition Issues

Problem: How can I properly use a SanDisk Cruiser flash drive to image supported devices using the Wyse USB Firmware Tool? (KB17735)

Solution: SanDisk flash drives come with support for U3 (for details on U3, see http://www.u3.com). When you initially use these drives, you are prompted to select the use for the drive: *Apps and Storage* or only *Storage*. If you select the *Apps and Storage* option, the drive will create two partitions, one of which is identified as a CD and is a read only partition. This partition sometimes prevents the Wyse USB Firmware Tool to properly prepare the USB key for imaging a device. To resolve this problem you can do one of the following:

- Go to http://www.sandisk.com, search in the SanDisk Knowledge Base for document **2550**, and then follow the instructions in the documentation.
- Go to http://www.sandisk.com/DriverDownload/driverList.asp, select **USB Flash Drives** from the *Select Product Type* list, click **Find Driver**, select **U3 LaunchPad Remover**, click **Continue**, and then download and use the *U3 Launchpad Remover* according to the instructions.

Installation Guide

Wyse® C Class and Wyse® R Class Flash Upgrade Option Kit
Issue: 030111

Written and published by:
Wyse Technology Inc., March 2011

Created using FrameMaker® and Acrobat®